

### **REMARKS**

Applicants appreciate the Examiner's thorough consideration provided the present application. Claims 1-10 and 53 are now present in the application. Claim 11 has been added. Claims 11-52 have been withdrawn and hereby cancelled. Claims 1, 2 and 3 are independent. Reconsideration of this application, as amended, is respectfully requested.

### **Allowable Subject Matter**

The Examiner fails to treat independent claim 2 on the merit in the outstanding Office Action. Therefore, it is believed that claim 2 and its dependent claims are allowable.

However, if the Examiner raises new rejection(s) to claim 2 in the next Office Action, the next Office Action must be made non-final because failure to treat claim 2 on the merits and then finally rejecting claim 2 in the next Office Action would be improper. Nonetheless, it is still believed that claim 2 and its dependent claims are allowable. Favorable consideration and allowance of claim 2 and its dependent claims are respectfully requested.

### **Priority Under 35 U.S.C. § 119**

Applicants thank the Examiner for acknowledging Applicants' claim for foreign priority under 35 U.S.C. § 119, and receipt of the certified priority document.

### **Information Disclosure Citation**

Applicants thank the Examiner for considering the references supplied with the Information Disclosure Statements filed on May 11, 2005 and August 13, 2007, and for providing Applicants with an initialed copy of the PTO-1449 forms filed therewith.

### **Drawings**

Applicants thank the Examiner for accepting the formal drawings of the instant application.

### **Claim Rejections Under 35 U.S.C. § 103**

Claims 1 and 3-10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kim, KR 100226831. Claims 1 and 3-10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kim in view of Uemura, U.S. Patent Application Publication No. 2003/0107053. These rejections are respectfully traversed.

Complete discussions of the Examiner's rejections are set forth in the Office Action, and are not being repeated here.

Independent claim 1 recites a combination of element including "a GaN-based layer; a high concentration GaN-based layer formed on the GaN-based layer; a first metal-Ga compound layer formed on the high concentration GaN-based layer; a first metal layer formed on the first metal-Ga compound layer; a third metal-Al compound layer formed on the first metal layer; and a conductive oxidation preventive layer formed on the third metal-Al compound layer."

Independent claim 3 recites a combination of element including “a GaN-based layer; a high concentration GaN-based layer formed on the GaN-based layer; a first metal-Ga-N compound layer formed on the high concentration GaN-based layer; a first metal layer formed on the first metal-Ga-N compound layer; a third metal-Al compound layer formed on the first metal layer; and a conductive oxidation preventive layer formed on the third metal-Al compound layer.”

Applicants respectfully submit that the above combinations of elements as set forth in independent claims 1 and 3 are not disclosed or suggested by the references relied on by the Examiner.

Kim in FIG. 1d discloses an GaN LED device having a N-typed GaN layer (2); a active layer (3); a P-typed GaN layer (4) formed on the active layer; a first Ti layer (5) formed on the P-typed GaN layer (4); an Al layer (8) formed on the first Ti layer; a second Ti layer (5) formed on the Al layer (8); and a Au layer (7) formed on the second Ti layer (5). Kim in FIG. 2c (another embodiment) discloses an LED device having a GaTi or GaTiN layer (15) and an Al layer (16) formed over the GaTi or GaTiN layer (15). However, Kim fails to disclose a high concentration GaN-based layer formed on a GaN-based layer as recited in claims 1 and 3. Although the Examiner referred to Kim's P-typed GaN layer (4) as the high concentration GaN-based layer of claims 1 and 3, Kim nowhere discloses that the P-typed GaN layer (4) is a high concentration GaN-based layer.

In addition, Kim also fails to disclose a third metal-Al compound layer formed on a first metal layer as recited in claims 1 and 3. The third metal-Al compound layer serves as a second diffusion barrier for suppressing a unwanted reaction of a material forming the conductive

oxidation preventive layer and a lower electrode and a semiconductor, and serves to increase the thermal stability of the electrode (see paragraph 187). Furthermore, Kim also fails to teach that the third metal-Al compound layer is formed between the first metal and the conductive layer, and is formed with compound of the Al and the third metal. These features are clearly absent from Kim.

Uemura also fails to cure the deficiencies of Kim. Uemura is simply relied on for its teaching of an LED device having a translucent electrode over a Group III base layer. Uemura also fails to disclose the above combinations of elements as set forth in independent claims 1 and 3.

Accordingly, neither the Kim nor Uemura individually or in combination teaches or suggests the limitations of independent claims 1 and 3. Therefore, Applicants respectfully submit that independent claims 1 and 3 clearly define over the teachings of Kim and Uemura.

In addition, claims 4-10 depend, either directly or indirectly, from independent claims 1 and 3, and are therefore allowable based on their respective dependence from independent claims 1 and 3, which are believed to be allowable.

In view of the above remarks, Applicants respectfully submit that claims 1 and 3-10 clearly define the present invention over the references relied on by the Examiner. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103 are respectfully requested.

### **Additional Claim**

Claim 53 has been added for the Examiner's consideration, which is directed to the elected Species. Applicants respectively submit that claim 53 depends from any one of independent claims 1-3, and are therefore allowable based on its dependence from independent claims 1-3, which are believed to be allowable. Consideration and allowance of claim 53 are respectfully requested.

### **CONCLUSION**

All the stated grounds of rejection have been properly traversed and/or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently pending rejections and that they be withdrawn.

It is believed that a full and complete response has been made to the Office Action, and that as such, the Examiner is respectfully requested to send the application to Issue.

In the event there are any matters remaining in this application, the Examiner is invited to contact the undersigned at (703) 205-8000 in the Washington, D.C. area.

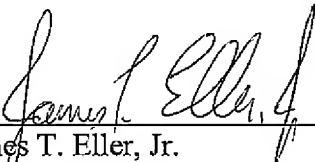
Application No.: 10/534,489  
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If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By 

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